

**CLINICAL AND EPIDEMIOLOGICAL FEATURES OF DISHORMONAL DISEASES
AND BREAST CANCER IN MEN IN THE ARAL SEA REGION**L.T. Alimkhodzhaeva^{*1}, M.Kh. Norbekova²

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AIM OF THE STUDY

To study the features of the spread of diseases of the mammary glands in men living in various landscape zones of the Aral Sea region, and to establish the relationship between morbidity rates, microelement composition of the blood, and the level of sex hormones.

MATERIAL AND METHODS

We have examined in dynamics 342 men with dysghormonal hyperplasia and breast cancer aged 12 to 80 years and older, of which 130 with diffuse form of gynecomastia, 114 with nodular, 76 with mixed, 15 with breast cancer and 7 people with other pathologies. Groups were formed with their maximum homogeneity. The studied clinical groups consisted of the indigenous alien population living in the Aral Sea region for at least 10 years. The control group included 50 men of the corresponding age groups living in the Aral Sea region for at least 20-30 years, who, after a preventive examination, were found to be practically healthy. Determination of microelement analysis of blood of patients with dysghormonal diseases of the mammary glands and breast cancer was carried out by the method of atomic absorption spectrophotometry. Determination of the hormonal profile of peripheral blood was carried out on the basis of the laboratory of radioisotope diagnostic methods. 295 samples analyzed. The technique of the atomic absorption method for determining the elements consisted in the decomposition of the analyzed sample, spraying the resulting 41 solution in an air-acetylene flame or in a flame of a mixture of nitrous oxide and acetylene, depending on the element being determined, measuring the atomic absorption of resonance radiation by neutral atoms of the elements being determined formed in the process sample atomization. When determining calcium and magnesium, a 1% solution of lanthanum was introduced into the test solution to neutralize the effect of elements interfering with the analysis. Calculations were performed according to the third category of accuracy, for which its margin is measured by the formula: $1 < Z$.

RESULTS

The results of studies by atomic absorption spectrophotometry - the maximum amount of the trace

element zinc ($559.8 + 39.1 \mu\text{g/g}$) and manganese ($5.54 + 0.06 \mu\text{g/g}$) was found in the peripheral blood of patients with diffuse form of gynecomastia. They also had the minimum content of cobalt ($9.88 + 0.39 \mu\text{g/g}$) and copper ($63.17 + 3.16 \mu\text{g/g}$). The significance of the difference in the content of zinc between the control group is defined as the minimum $t = 0.5$, and manganese $t = 3.1$ as the largest. For patients with the nodular variant of gynecomastia, we noted the opposite pattern. The microelements of cobalt ($20.98 + 0.84 \mu\text{g/g}$, $t = 17.3$), copper ($79.54 + 3.98 \mu\text{g/g}$, $t = 3.0$), strontium ($15.90 + 0.79 \mu\text{g/g}$, $t = 6.6$), lead ($47.20 + 15.10 \mu\text{g/g}$, $t = 1.3$) and cadmium ($25.20 + 6.05 \mu\text{g/g}$, $t = 2.1$).

Comparison of the primary incidence with the geochemical situation in the three zones of the Aral Sea region revealed the following pattern: an increase in the content of copper and cobalt occurs in parallel with an increase in the incidence of gynecomastia and breast cancer in the direction from north to south. In the same direction, the concentration of zinc and manganese decreases. In addition, in the transitional and southern provinces of the Aral Sea region, an increased content of toxic elements (strontium, lead, cadmium) was noted.

CONCLUSION

Thus, the features of the violation of hormonal and mineral homeostasis in men that we have identified are closely related to the characteristics of the microelement composition of the environment, the latter, in turn, affect the various incidence of dysghormonal hyperplasia and breast cancer in the Aral Sea region. Therefore, in order to form high-risk groups for the development of dishormonal diseases and breast cancer in men of the Aral Sea region, along with genetic and modifying factors, it is necessary to take into account the microelement composition of the environment.